

PRODUCTION OF HIGH-DENSITY MATERIAL

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Abstract of JP7100629

PURPOSE: To easily obtain the compacted high-density material by subjecting the front layer parts of a green compact and casting of metal to a shot peening treatment to close the open pores of the front layer parts, then subjecting the green compact and casting to an HIP treatment.

CONSTITUTION: The front layer parts of, the green compact and casting of the metal are subjected to the shot peening treatment to close the open pores existing in the front layer parts. The green compact and casting are then subjected to the hot isotropic press treatment in a gaseous Ar atmosphere, etc. For example, the front layer parts of aluminum alloy castings are subjected to the shot peening treatment by spraying steel balls thereto to close the open pores existing in the front layer parts. The aluminum alloy castings are then subjected to the HIP treatment under the conditions of 450 deg.C, 1000kgf/cm² pressure and holding for two hours in the gaseous Ar atmosphere. As a result, the open holes and holes in the front layer parts and near the front layer parts of the material are eliminated. The high-density material having the improved theoretical density is thus produced.

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